

### REMARKS

Claims 46-60 and 81-95 are pending in the application. This amendment cancels claims 46 and 49 without prejudice, amends claims 47-55, 59, 81, 82, 85-87, 93 and 95 to more positively recite the embodiments of applicants' patentably novel invention, and adds claims 96-99 to set forth applicants' invention in vary scope. No claims are allowed or allowable.

Applicants have amended claim 47 as suggested by the Examiner by inserting –emitting—after “light” in the phrases “organic light materials” and “organo-metallic light materials.” Applicants respectfully request admission of the amendments to, and consideration of, amended claim 47.

Claim 95 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description. Applicants respectfully traverse the rejection of claim 95 under 35 U.S.C. 112, first paragraph, however to eliminate this issue, claim 95 is amended to be dependent on claim 47. Support for the amendment to claim 95 is found, among other places, in the originally filed claims, e.g. but not limited to, originally filed and previously canceled claim 63.

Based on the forgoing, applicants respectfully request admission of, and consideration of, claim 95 and withdrawal of the rejection of claim 95 under 35 U.S.C. 112, first paragraph.

Claims 59 and 95 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Applicants respectfully traverse the rejection of claims 59 and 95 under 35 U.S.C. 112, first paragraph, however to reduce this issue claim 95 is amended, as discussed above, to be dependent on claim 47.

Regarding claim 59 the Office Action alleges that the specification does not enable one to make and/or use the invention as claimed in claim 59 which

requires a dye-doped dendrimer that is capable of up-conversion of infrared energy into visible radiation. Applicants respectfully disagree. Page 18, lines 16-34 of applicants' specification discusses techniques that can be used to make light emitting material and references an article titled "Laser emission from high-gain media of dye-doped dendrimer" by Shiyoshi Yokoyama, Akira Otomo and Shino Mashiko, Applied Physics Letters Vol. 80 No. 1. 7 January 2002, pages 7-9, the entire document is incorporated by reference. The article describes making organic laser dyes and provides examples of dye-doped dendrimers.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 59 and 95 under 35 U.S.C. 112, first paragraph.

Applicants note that claim 59 dependent on claim 55 is only rejected under 35 U.S.C. 112, first paragraph, discussed above. Applicant has amended claim 59 to be in independent form having all the limitations of claim 55. Applicants respectfully request consideration of, and allowance of claim 59.

Claims 48, 50, 85, 93 and 94 are rejected under 35 U.S.C. 112, second paragraph. Applicants respectfully traverse the rejection of claims 48, 50, 85, 93 and 94 under 35 U.S.C. 112, second paragraph. To eliminate this issue, the following action has been taken.

Regarding claim 48, the Office Action alleges that the scope of light emitting materials as set forth in claim 48 is not clear. The Office Action continues by alleging that it is not clear if the possibilities set forth beginning in line 3 following "material selected from" are possibilities for the light emitting material as a whole, or are possibilities for the dopant. The Office Action concludes by alleging that the scope of materials is also unclear because of the multiple occurrences of "and", and if certain materials must be used in combination-

Applicants have amended claim 48 to more positively recite the materials. Support for the amendment to claim 48 is found, among other places, on page 15, line 14 to page 16, line 9 of the specification. Based on the forgoing, applicants respectfully request admittance and consideration of amended claim 48.

Regarding the rejection of claim 50, the Office Action alleges that the limitations imposed by the phrase “non-transparent” are not clear. To eliminate this issue, claim 50 is amended to recite, among other things, that the member passes less than 50% of the wavelengths within the predetermined absorption band impinging on the member. Support for the amendment to claim 50 is found, among other places, on page 23, lines 14 – 34 and Fig. 1 of the specification.

Based on the forgoing, applicants respectfully request admittance of the discussed amendment to claim 50 and request reconsideration of claim 50.

Regarding the rejection of claims 85 and 93, the Office Action alleges that it is not clear if claims 85 and 93 are limited to an article selected from “a commercial window ...glass unit”, or if these claims are limited to a laminated article which is capable of being used as, or capable of being used as part of, “a commercial window ... glass unit.” To eliminate this issue claims 85 and 93 are each amended to recite that the laminated article is selected from the group of a commercial window, a residential window, a commercial sign, an advertising display, and an insulating glass unit. Support for the amendment to claims 85 and 93 is found, among other place, on page 2, lines 26 – 31 of the specification.

Based on the forgoing, applicants respectfully request admittance of the amendments to, and consideration of, claims 85 and 93, and withdrawal of the rejection of claims 48, 50, 85 and 93 under 35 U.S.C. 112, second paragraph.

Claims 46, 47, 49, 51-53, 81, 82 and 85-87 are rejected under 35 U.S.C. 102(b) as being anticipated by Meijer U.S. Patent No. 2,878,606 (hereinafter also referred to as "Meijer"). Applicants respectfully traverse the rejection of claims 46, 47, 49, 51-53, 81, 82 and 85-87 under 35 U.S.C. 102(b) as being anticipated by Meijer, however to eliminate this issue claim 46 is cancelled without prejudice and claim 50, discussed above is amended to include, among other things the limitations of claim 46 on which claim 50 was dependent. Support for the amendment to claim 50 is found among other places in originally filed claim 46 and on page 23, lines 14 – 34 and Fig. 1 of the specification. Claims 47, 49, 51-53, 81, 82 and 85 – 87 are amended to be dependent on claim 50. Based on the foregoing applicants respectfully request admittance of the amendments to, and consideration of, claims 47, 50-53, 81, 82 and 85-87.

Claim 50 was not rejected under 35 U.S.C. 102(b) as being anticipated by Meijer, and therefore claims 47, 51-53, 81, 82 and 85-87 dependent on claim 50 are not anticipated by Meijer.

Based on the foregoing, applicants respectfully request withdrawal of the rejection of claims 47, 51-53, 81, 82 and 85-87 under 35 U.S.C. 102(b) as being anticipated by Meijer.

Claims 46, 47, 49, 51-53, 55-58, 60, 81-83, 85, 86, 88-91 and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Downing et al. in *Science*, Vol.273 (August 30, 1996), pp. 1185-1189 (hereinafter also referred to as "Downing"). The Office Action directs attention to the whole article and in particular to the first paragraph on page 1186, first full paragraph on p. 1188, the paragraph bridging pp. 1188-1189, and Figures 3A and 5.

Applicants respectfully traverse the rejection of claims 46, 47, 49, 51-53, 55-58, 60, 81-83, 85, 86, 88-91 and 93 under 35 U.S.C. 102(b) as being

anticipated by Downing; however, to reduce the issues the following action has been taken.

Claims 46, 47, 49, 51-53, 81 and 82 are amended to be dependent on claim 50; claim 83 is dependent on claim 82. Support for the amendments to claims 46, 47, 49, 51-53, 81 and 82 is found among other places in the originally filed claims. Based on the forgoing, applicants respectfully request admittance of the amendments to claims 46, 47, 49, 51-53, 81 and 82 and consideration of claims 46, 47, 49, 51-53 and 81-83.

Claim 50 is not rejected under 35 U.S.C. 102(b) as being anticipated by Downing, and therefore claims 46, 47, 49, 51-53 and 81-83 dependent on claim 50 are not anticipated by Downing. Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 46, 47, 49, 51-53 and 81-83 under 35 U.S.C. 102(b) as being anticipated by Downing.

Regarding claims 55-58, 60, 88-91 and 93, claims 56-58, 60, 88-91 and 93 are dependent on amended claim 55. Amended claim 55 recites, among other things, that an interlayer is between and secures the second surface the first and second sheets together and a member is provided between the Up-Conversion material and the first major surface of the second sheet, the member passing less than 50% of the infrared energy band impinging on the member. Support for the amendment to claim 55 is found, among other places, in originally filed claim 50 and on page 23, lines 14 – 34 and Fig. 1 of the specification. Based on the foregoing applicants respectfully request admittance of the amendment to claim 55, and consideration of claims 55-58, 60, 88-91 and 93.

Applicants respectfully submit that there is no disclosure in Downing of an interlayer sheet joining the second surface of a first and second sheet together. Applicants acknowledge that Downing discloses layers of sheets in Fig. 5, however, there is no teaching in Downing that the sheets are laminated

together. Further Downing fails to teach a member between the Up-Conversion material and the first major surface of the second sheet, the member passing less than 50% of the infrared energy band impinging on the member. Since Downing fails to teach, among other things these two features of applicants' claim 55, Downing cannot anticipate the subject matter of claims 55-58, 60, 88-91 and 93.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 46, 47, 49, 51-53, 55-58, 60, 81-83, 85, 86, 88-91 and 93 under 35 U.S.C. 102(b) as being anticipated by Downing.

Claims 48, 50 and 54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meijer as applied to claims 46, 47, 51-53, 81, 82 and 85-87 above, and for the further reasons set forth below. Applicants respectfully traverse this rejection of claims 48, 50 and 54 under 35 U.S.C. 103(b).

Claim 48 is amended to be dependent on claim 50, which was amended as discussed above to be in independent form. Claim 54 is amended to be in independent form including all the limitations of claim 46. Based on the forging, applicants respectfully request admittance of the amendments to, and consideration of, claims 48, 50 and 54.

Regarding claims 48 and 54, the Office Action alleges that the subset of light emitting materials required for claims 48 and 54 is not taught by Meijer, but these claims encompass fluorescent materials that were known in the art at the time of the present invention and that are capable of being excited by ultraviolet light to emit visible light. The Office action concludes by alleging that it would have been obvious to select suitable fluorescent materials from known fluorescent materials having the excitation and emissions characteristics required for the fluorescent materials of Meijer's fluorescent sign.

Applicants for the sake of discussion only, accept the above allegations of the Office Action as being correct. The Office Action in considering claim 54 did not take into consideration that the dye-doped dendrimer related to an encapsulated dye. The Office Action has failed to show any teaching that would lead one in the art to use an encapsulated fluorescent material for the fluorescent material of Meijer. Applicants respectfully submit that the combination of Meijer and dye doped dendrimers is made based on applicants' specification. As is appreciated this is a hindsight combination and therefore the rejection of claim 54 is not proper.

Regarding claim 50. Claim 50 recites, among other things a member between the at least one light emitting material and the first major surface of the second sheet, the member passing less than 50% of the wavelengths within the predetermined absorption band impinging on the member. The Office Action alleges that it would have been *prime facie* obvious modification to one of ordinary skill in the art at the time the invention was made to include one or more UV-absorbing sheets between the light emitting layer and the UV-absorbing outermost sheet in laminates having more than three sheets in order to provides one or more additional layers of protection against sun exposure.

Applicants respectfully submit that Meijer does not lead one skilled in the art to provide a member that passes less than 50% of the radiation in combination with a first transparent sheet and a second sheet. More particularly, Meijer discloses in column 3, lines 24 –31 that both sheets are capable of transmitting visible light rays and the exposed sheet is capable of transmitting visible light only but the rear sheet transmits both visible and ultraviolet rays. Applicants respectfully submit that the teaching of Meijer leads one skilled in the art away from providing a member transmitting less than 50% of the radiation between the light emitting member and the outer surface of the sheet because as taught by Meijer the outer sheet passes only visible light and there is no

reason found in the teachings of Meijer to provide an additional sheet or member to block out the UV radiation.

Based on the forgoing, applicants respectfully request withdrawal of the rejection of claims 48, 50 and 54 under 35 U.S.C. 103(a) as being unpatentable over Meijer.

Claims 46, 47, 49, 51-53, 55-58, 60, 81-86 and 88-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack U.S. Patent No. 4,935,722 (hereinafter also referred to as "Pollack") in view of Pinchok, Jr. et al. U.S. Patent No. 5,653,903 (hereinafter also referred to as "Pinchok"). Applicants respectfully traverse the rejection of claims 46, 47, 49, 51-53, 55-58, 60, 81-86 and 88-93 under 35 U.S.C. 103(a) as being unpatentable over Pollack U.S. Patent No. 4,935,722 in view of Pinchok, however to eliminate this issue, the following action is taken.

Claim 46 is cancelled, and claims 49, 51-53 and 81-86 are dependent on claim 50, discussed above. Claim 50 is not rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack in view of Pinchok and therefore the claims dependent thereon are not rejected under 35 U.S.C. 103(a) as being unpatentable over Pollack in view of Pinchok.

Regarding claims 55-58, 60 and 88-94, claims 56-58, 60, and 88-93 are dependent on amended claim 55, discussed above. Applicants respectfully submit that there are no teachings in Pollack and/or Pinchok of a member between the Up-Conversion material and the first major surface of the second sheet, the member passing less than 50% of the infrared energy band impinging on the member.

Based on the forgoing, applicants respectfully withdrawal of the rejection of claims 46, 47, 49, 51-53, 55-58, 60, 81-86 and 88-93 under 35 U.S.C. 103(a)



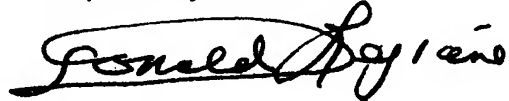
as being unpatentable over Pollack in view of Pinchok and request allowance of claims 47-60, 81-93 and 95.

Applicants have added new claims 96-99. Claims 96 and 97 are each dependent on claim 50, and claims 98 and 99 are each dependent on claim 55. Support for new claims 96-99 is found, among other places on page 23, lines 14-34 and Fig. 1 of the specification. The arguments put forth to patentably distinguish claims 50 and 55 over the art are applicable, among others, to patentably distinguish claims 96-99 over similar art.

Based on the forgoing, applicants respectfully request admittance, consideration, and allowance, of claims 96-99.

This amendment represents a sincere effort to place this application in condition for allowance, in the event issues remain, the Examiner is invited to call the undersigned to discuss those issues before action is taken on the case.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Donald C. Lepiane", written in a cursive style.

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